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Abstract

In this paper we investigate whether young people whose fathers are union members are themselves more likely to join a union. The work builds upon a large social science literature on intergenerational mobility that, to our knowledge, has not been applied to industrial relations questions. The paper asks questions and provides evidence from British longitudinal data on several issues to do with the cross-generation transmission of union status:

i) We first calculate odds ratios, as often used in the literature on social mobility, to look at empirical connections between the union status of young people and their fathers. We calculate relative risk ratios that measure the relative chances that a child of a unionized father is unionized as compared to the relative chances of the child of a non-union father being unionized. This relative risk ratio is of the order of 2, showing that young people with unionized fathers are twice as likely to be unionized as those with non-union fathers.

ii) The relative risk ratio is higher, at over 3, for young people with fathers who report themselves as being active in a union. To the extent that active in a union fathers are more likely to 'spread the word' about unions to their offspring, this higher relative risk ratio supports the idea that the socialization within the family during the formative years passes on positive knowledge about unions to children of unionized parents making them more likely to join a union.

iii) The intergenerational correlation of union status has not reduced over time. Despite a widening of the union membership gap between older and younger workers, relative risk ratios calculated from early 1980s data are no larger than those from the 1990s.

iv) The cross-generation correlation is not driven by common within-family characteristics (like occupation, industry and political persuasion) that are strongly related to union status in the data.

JEL Classification: J130, J510, C250, J620.
Keywords: young people; union member; union at work; relative risk ratio; intergenerational links.

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Cross-Generation Correlations of Union Status For Young People in Britain

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1. Introduction

There is by now a very large academic literature on connections between an individual's economic or social success and the economic or social position of their parents.[1] Much of this work shows strong links between the social class, labour market earnings, educational achievement and family income of parents and their offspring. As a result this research has featured prominently in political and academic discussions about equality of opportunity and social mobility.

In this paper we apply the intergenerational transmissions approach to a different area that, to our knowledge, has had little or no consideration before. We look at patterns of unionization of young people and their fathers to see if one can uncover any intergenerational persistence in union joining behaviour. One can think of a number of reasons why one might expect to uncover such a link. For example, growing up in a family where the parent(s) were active in a trade union and passed on knowledge of the positive aspects of unions to their children may shape children's attitudes to unions and, in turn, influence their likelihood of a joining a union. Alternatively, it could be that just knowing that unions exist because parents were members is enough to increase the probability that a young person will become a member.

Our focus on young people is due to the nature of data available on the union status of people and their parents. This is because we are only able to find out about the union status of two generations from household surveys from which (for at least some periods of our analysis) we have to match parents and children living in the same household.[2] However, looking for the existence of cross-generation correlations between young people and their parents is important in obtaining a good understanding of the reasons why young people join (or do not join) trade unions. Improving this understanding has become very important for unions in recent years, given the backdrop of the sharp decline in unionization since the late

[1] There is a large body of academic work, carried out predominantly by sociologists, on social class mobility across generations (up to date references are given in the Performance and Innovation Unit, 2001, survey paper) and a smaller, but growing body of work which considers mobility in terms of economic status (usually measured by labour market earnings of children and parents: see the review of Solon, 1999). Of course this focus on cross-generation correlations is not at all new and dates back at least as far as Galton's (1886) cross-generation height correlations. Some more recent work (e.g. Blanden *et al*, 2002; Breen and Goldthorpe, 2001) has started to focus upon changes in the extent of economic and social mobility over time.

[2] There are other surveys that link people to their parents that do not rely on the household nature of the sample. The British birth cohorts (full populations of people born in a week of March 1958 and April 1970) are good examples. Unfortunately, the nature of the data collection process in these surveys does not permit a cross-generation study of union status. Nevertheless, the sample that we study does seem representative of the

1970s (Machin, 2000; 2002a). Of course, the cross-generation question and its connection to parental socialization form only one part, albeit a largely unstudied part, of the union joining question for young people. But study of all aspects of what shapes and influences young people's unionization rates has become all the more important given the particularly low current levels of union membership amongst the young. This is a feature not only of the country we study (Britain) but also of other countries (notably the United States) where union decline has been pervasive.

In this paper we present evidence showing young people to be significantly more likely to be unionized if their fathers are also unionized. Importantly, for the parental socialization thesis we also find stronger connections where fathers report themselves as active in their trade union.

Furthermore, our findings show that the correlation between the union membership of young people and their parents is not driven by common factors that cause people to join a union. We consider several possible common factors, drawing on what have become cited by some researchers as empirical regularities in the large literature on who joins unions (for example, see Bain and Elias, 1985; Booth, 1986, 1995; and Farber, 1983). These include firm size, occupation, industry, whether one works in the public sector and political preference. Controlling for these attributes for both young people and their parents (and specifically for their cross-generation persistence) does dampen down the link between the union status of young people and parental union status, but a significant correlation remains. On the basis of this it seems hard to attribute the existence of an intergenerational link in union status to cross-generation commonalities in measured characteristics correlated with union membership.

Empirical social science researchers have not, to our knowledge, addressed the question of cross-generation correlations in actual union status. There is some related work in political science looking at cross-generation correlations of political values (Jennings and Niemi, 1969; Dalton, 1980). These studies place particular attention on the influence of parents in the formative years and how the process of parental socialization has long lasting effects on views of their offspring throughout the life cycle. There are also a few empirical studies that consider cross-generation issues to do with attitudes to trade unions, typically based on surveying students and their parents. These tend to look at attitudinal outcomes like

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population of young people (this is discussed below in the main text and a representativeness analysis given in the Appendix to the paper).

willingness to join a union. Our analysis instead looks at actual outcomes by studying correlations of union status for young people and their fathers.

The paper looks at cross-generation correlations of union status using individual-level data, drawn from three British household surveys in the 1980s and 1990s. We begin, in the next Section, by introducing some concepts and by providing some background statistics on the unionization patterns of younger and older people. Following this, Section 3 considers mechanisms by which one might expect to see young people with unionized fathers being more likely to join a union themselves. Section 4 describes the derivation of the samples we use in our statistical analysis and presents some descriptive statistics. Section 5 reports the empirical results. Finally, the concluding Section of the paper offers a discussion of the implications of our findings.

2. Background: Young People and Trade Unions

2.1 Patterns of union membership by age

The most recent figures available from the UK Labour Force Survey (LFS) starkly illustrate the state of young workers' unionization. In autumn 2000 only 10 percent of workers aged between 16 and 24 were union members, whereas the membership rate for workers aged between 25 and 65 was three times higher at 30 percent. Figures from the General Household Survey (GHS) in 1983 demonstrate that, although this generation gap has tended to widen over time in proportional terms[3], the age gap itself is not a recent phenomenon, with 34 percent of younger workers then being union members compared with 54 percent of the older group. Going back further in time, to the National Training Survey (NTS) individual-level data of 1975, reveals an age gap in union membership status even in a period when aggregate union membership was, in historical terms, very high. Then 43 percent of workers aged less than 25 were union members as compared to 58 percent of those aged 25 to 65.

[3] In the 2000 data membership is three times as high for adults compared to young workers, whereas the 1983 figures show adult membership to be less than twice as large. See also the statistical analysis in Machin (2002b) showing that age has become a more important determinant of union status in Britain in the last quarter century.

2.2 Propensity and opportunity

One of the classic models of union joining behaviour is Bain and Elsheikh (1976), in which propensity and opportunity are highlighted as crucial aspects of the union joining decision. This distinction can be a useful way of thinking about age differences in union membership: young people are less likely to join unions either because their exposure to them has been lower (they have had less opportunity) or because their propensity is less (they evaluate the gains to unionization as being lower).

It is not straightforward to empirically distinguish these hypotheses, although a large portion of the early literature on who joins unions tended to highlight opportunity as the key factor. For example, Payne (1989) reaches the conclusion that 'low union membership among young people is to a large extent a product of the jobs they hold' (Payne, 1989, p.125). For our purposes it is not the propensity versus opportunity distinction *per se* that matters. Rather, what matters for our analysis is whether the focus on younger people means that one may not end up with an accurate picture of cross-generation correlations because of propensity and/or opportunity, or their relative importance, differing across the life-cycle.

In our empirical work we therefore not only look at union membership, but also at union availability. One can think that the former is linked more closely to propensity and the latter to be more closely related to opportunity. We believe that trying to look at both propensity and opportunity is useful as the relationship between the two may change over the life-cycle. The measure of availability we consider, for data reasons forced upon us (see below), is whether a union is available at the workplace.

2.3 Patterns of union availability by age

We can look at trends in union availability for different age groups in the same way as we did for union membership. The 2000 LFS data show there to be less of a difference in availability over age groups than we found for union membership. In 2000, 29 percent of younger workers (again aged 24 or less) have a union available at work as compared to 35 percent of adult workers. The 1983 data reveals similar patterns, although at a higher overall level of availability, at 53 percent for younger workers and 69 percent for older workers. The greater difference in union membership between age groups compared with union availability is suggestive (subject to caveats about the availability measure) of a larger difference among younger workers in propensity rather than opportunity.

2.4 Explanations of lower unionisation among young people

Recent work by Gomez *et al* (2001) puts forward several hypotheses to explain the lower propensity towards unionism amongst young workers. Most importantly we know that young people have higher job mobility than their more senior colleagues. This has two effects on the benefits they perceive from joining a union. First, any benefits from membership will be limited to the short period over which they remain with their current employer and second, dissatisfied young workers have more opportunities to move on and may choose to do this rather than engage in industrial relations (i.e. they choose "exit" over "voice").[4] A further reason why young workers are less likely to unionize is that their short time in the labour market makes them less likely to have experienced poor management or other workplace frustrations. Finally, if preferences of unions over policies reflect the view of the median voter, and their attitudes, opinions and preferences are far away from the concerns of the average young worker, this will deter the young person from joining.

These reasons for not joining may well fade as workers age and possibly acquire more information, or alter their views on unions over the life-cycle. If true, we would expect to see union membership increase as individuals move through their twenties and beyond (subject to there being suitable opportunities). This again justifies why we have an interest in exploring possible differences in cross-generation patterns that emerge for the two different measures of union status we are able to analyse.

3. Why Might We Expect to Find Cross-Generational Persistence in Unionism?

The empirical literature on who joins unions reveals some strong regularities in the characteristics of union members and on who works in unionized workplaces (see the discussion of many empirical studies, at different levels of aggregation, time periods and countries in Booth, 1995). One should be somewhat careful here, given that there may be cross-time variations in the magnitudes of links with union status and in their statistical significance (as in Machin, 2002b), but unionization has been shown to be significantly

[4] See Freeman and Medoff (1984) for the classic exposition of Hirschmann's (1970) exit-voice distinction for the case of trade unions.

associated with working in particular industries, being in certain occupations, working in firms with certain characteristics and with holding particular political affiliations. It is clear, therefore, that cross-generational correlations in unionization can come through two mechanisms: through similarities in observed personal or job characteristics like those just listed, or though similarities in preferences for unionism once these characteristics are accounted for. In our empirical work we take a two-step approach to allow for this, first measuring intergenerational persistence and then investigating how much of it can be explained by cross-generation persistence in individual and job characteristics. In this section we discuss each of the characteristics we look at in turn and then consider the direct mechanisms that may be in operation. We then describe the main features of the small and fairly limited existing empirical literature that is relevant to this topic.

3.1 Occupation and industry

As already noted, many studies have uncovered occupational and industrial differences in unionization. There is also evidence that occupation and industry affiliation are correlated for parents and their offspring as a sizable body of research highlights reasons why children follow parents into specific occupations or industries. For example, based upon a large data source covering a birth cohort of Britons born in a week of March 1958, Robertson and Symons (1990) reported almost half of young men in the cohort were in 1981 (at age 23) in the same broad occupational group as their fathers. There is also a large sociological literature on intergenerational social mobility looking at social class measures based on occupation (see Performance and Innovation Unit, 2001, for a review and Erikson and Goldthorpe, 1992, for international evidence). Focus on more specific occupations and industries reveals cross-generation correlations to apply in the case of teachers, doctors, lawyers and farmers (see McNally, 2002, for evidence on the latter). Chevalier (2001) mentions three reasons why this outcome may occur. The first of these is that nepotism gives an individual an advantage through personal contacts. Alternatively, costs of entry into a given labour market may be lower for individuals who can learn in the family business. Finally, occupation - or industry - specific human capital can be transmitted between generations, translating into larger gains for children whose parents already work in the same field.

3.2 Firm size

It is also well established that workers are significantly more likely to be trade union members if they work in larger firms (for example, see the studies reported in Hirsch and Addison, 1986). There are several possible reasons for this. For example, there might be economies of scale in union organising, or there may be more quasi-rents to share. There is much less evidence on cross-generation correlations, but for our purposes it is possible that people from the same family work in similarly sized firms, for common family reasons not to do with union membership. If this occurs we do not wish to confound a cross-generation union correlation with this common firm size pattern.

3.3 Political preferences

It is well known that political preference is related to unionization (some up to date industrial relations evidence is reported in Charlwood, 2002). In addition there is evidence from political science that explores links in political affiliations across generations. A classic early American paper on this topic is Jennings and Niemi (1968). This study considers 12th graders (aged around 17-18 years old) and their parents and considers correlations between partisan affiliations and attitudes to specific issues across the generations. The main finding is that political affiliations (Republican v Democrat) are fairly highly correlated across generations (correlation coefficient = .59) while attitudes on specific issues (like racial attitudes or civic tolerance) are not so strongly related. Dalton (1980) reappraises their evidence and convincingly shows that reporting measurement errors caused them to understate most of their correlations and that both partisan and other values are strongly related across generations. Therefore if union membership is determined in both generations by political views and political views are transmitted between generations we would anticipate a correlation in union status across generations.

3.4 Direct mechanisms

The decision to engage in trade union activity can be regarded as a cost benefit calculation on the part of employees (Kelly, 1998). There are a number of ways, unrelated to or over and above the direct correlates of union membership considered above, that the previous generation's union status may influence this calculation. Firstly, having a father with union

experience will most likely improve an individual's knowledge about the positive aspects of unionism. This in turn may increase his or her perception of the expected benefits of joining. Secondly, the previous generation's union experience may reduce the cost associated with engaging in industrial action. This is particularly the case if the attitudes of family and other "significant others" are included in the cost benefit calculation as they are in Klandermans' (1984) model.

More generally, work beliefs may be shaped by parental unionization. It may act as an antecedent to young people's union joining behaviour, because parental socialization affects views of young people in their formative, pre-labour market years. If so, then we would expect to see a direct correlation in union status across generations. The extent to which other commonalities induced by parental socialization matter means that controlling for the factors listed above may reduce the cross-generation correlation, but if parental socialization has more deep-seated effects that work over and above the job characteristics we consider (e.g. by influencing pre-labour market factors that are correlated with union status) then we will still see a significant cross-generation in statistical models that condition on these characteristics. We implement a test of this in our empirical models reported below.

3.5 Relevant empirical literature

The (very small) empirical literature relevant to our analysis, almost all of which is based on Canadian data, has tended to emphasise the transmissions of attitudes to unions between generations rather than union membership itself. For example, there is a small literature on union attitudes of students and their parents. Barling, Kelloway and Bremerhamm (1991) consider correlations between Canadian young people's attitudes to unions and their perception of parents' union participation and attitudes. They find that young people who report that their parents are active in the union or who have positive union attitudes are likely to have more favourable attitudes to unions themselves and are more likely to express an intention to unionize. However the sample sizes in their data are prohibitively small, preventing much in-depth multivariate analysis. Dekker, Greenberg and Barling (1998) and Houghton (2000) address similar issues, again looking at rather small samples of students and parents, and uncover generational transfers of pro-union attitudes. For our purposes we prefer each generation to report their own union status in order to avoid possible problems

due to misclassification of union status.[5] Finally, in their general study of the determinants of young people's attitudes to unions in Canada, Gomez *et al* (2001) find that for young people having a family member in a union raises the probability of having a preference to belong to a union by 37 percent relative to the base case defined in their analysis.

4. Data and Descriptive Statistics

4.1 Sample selection

The main data source used in this paper is the British Household Panel Survey (BHPS). This survey began in 1991 and has since been carried out annually. There are currently ten waves of data available for use. The initial sample was a nationally representative survey of over 5000 households where data was collected on all members of the household aged over sixteen years old. A broad range of topics is covered in the survey. In subsequent waves the members of the initial households were followed and remain in the sample as they split off to form other households.

The household nature of the survey, coupled with its longitudinal structure, permits one to identify family members sharing the same household and then to follow them as they move into separate households. In this paper we look only at links between the union status of young people and their father due to the complex labour supply aspects of mother's work and resultant union membership. To do so we capture all young people who share a household with their father in each sweep and then trace the union history of these individuals for as many sweeps as possible. It is important to note that following this procedure enables us to include cases where the two generations do not live under the same roof. However in order for us to be able to connect young people and their fathers they must be living in the same household for one wave of the sample. Further, the sample selection procedure means we over-sample those who live at home at older ages. To counter the worst excesses of this we only look at individuals who are observed living at home at ages less than 26.

One might think that structuring the sample in this way could lead to us studying an unrepresentative sample of young workers, especially with respect to their union status. This is an issue we explore in the Appendix. In fact, it seems that the sample we analyse is

[5] See Card (1996) or Freeman (1984) for empirical studies of the extent and consequences of union

strongly comparable to a sample of all young workers from both the BHPS cross-section and from the Labour Force Survey. Of particular interest is the close correspondence between union status measures (defined precisely in the next sub-section), averages of which are almost identical in our matched sample, the BHPS cross-section of young people and the Labour Force Survey sample of young people.

4.2 Union variables

To explore cross-generation correlations in union status we look at union membership and whether the individual concerned is employed in a workplace with a recognised union. The union membership and union at work variables are based on questions in the employment section of the individual questionnaire. In wave 1 the questions asked are:

Is there a trade union, or similar body such as a staff association, recognised by your management for negotiating pay or conditions for the people doing your sort of job in your workplace?

Are you a member of this trade union/association?

Are you a member of any trade union or similar body?

Unfortunately in waves 2, 3 and 4 these questions were only asked of individuals who had changed job since the previous wave. We omit these waves from the analysis rather than attempt to make any assumptions about the union status of those who remain in the same job.[6] Fortunately in waves 5, 6 and 7 the survey returns to the question format above. But then, very frustratingly, the questions are altered once more in waves 8, 9 and 10 where the second question on union membership is omitted, restricting the membership question to those who have a union in the workplace. Reluctantly we also exclude these waves from our analysis. Therefore our main analysis is based upon waves, 1, 5, 6 and 7 of the survey.[7]

In addition, there is information on union activism in the BHPS, with the question "Are you active in a trade union?" being posed. Responses to this are useful to further test the important of parental socialisation for unionization, as we might expect to find stronger intergenerational patterns for young people whose parents are active in their union. There is

misclassification.

[6] We could still use these waves to connect fathers and sons, but the sample size gains from doing this are minimal, so we do not follow this route.

[7] In the Values and Attitudes section of the questionnaire in waves 1, 2, 3, 5, 7 and 9 individuals are asked "Are you a member of any of these?" and shown a list that includes trade unions. However we have reservations about using this question as there appears to be a disproportionately large number of people who answer "yes" in the main questionnaire but do not reply positively in the Values and Attitudes section.

one slight drawback, namely that out of the four waves that are suitable for analysis of cross-generation correlations of union status, the active in a union question is not available in wave 6. So when we use this information we restrict the analysis to waves 1, 5 and 7.

The BHPS provides data on the 1990s, but in order to consider changes over a longer time period we also look at data from the General Household Survey (GHS). This is the only household survey of reasonable sample size in Britain containing union questions prior to the 1990s.[8] Even then such data is only in the GHS for one year, 1983. In this year individuals were asked if they are union members and if there is a trade union in their place of work. Because of the single cross-section nature of the union data there is no opportunity to trace individuals as they age, restricting us to observing only fathers and young people who are still in the same household. So our comparisons of GHS and BHPS cross-generation patterns are confined to samples defined in the same way across the two surveys.

The inability to trace young workers (who are matched to fathers) very far into their labour market careers in the BHPS and GHS leads us to additionally look at data from the Labour Force Survey. The larger sample size offered by the LFS (over 100,000 respondents in each quarterly survey) enables us to look in more detail at the cohort and age effects discussed in Section 2. From 1993 onwards respondents are asked their union membership status in the LFS and we use their responses to compute membership rates for different age and cohorts groups. In addition from 1992-1998 there is a consistent variable derived from the question

At your place of work are there unions or staff associations or groups of unions?

After 1998 this question altered to:

Are any of the people at your place of work members of a trade union or staff association?

Therefore when we are concerned with union at work we use data from 1993 to 1998 in order to avoid inconsistency of response.

4.3 Descriptive statistics

Table 1 reports descriptive statistics from the BHPS and GHS samples on the union status of young people and their fathers. The Table is useful both for depicting cross-generation patterns and for revealing a number of salient features of the sample selection procedure

[8] The British Social Attitudes Surveys do contain union data but the cross-section sample sizes are too small to generate a sample size large enough to permit study.

used. The Table makes it clear that the age of young people rises as we move through the waves of the BHPS. This occurs because we have three groups of young people:

i) young people who are currently living with their father;

ii) young people who are living with their father in a previous wave but are not any longer;

iii) young people who live with their father in a subsequent wave but not in the current wave.

It is evident that in wave 1 group ii) will not exist, but as we move through the waves the size of group ii) will increase and the age profile of the sample of young people will tend to rise.

As we would expect from our discussion in Section 2, union membership rates of the younger generation are much lower than their fathers. Only around 16 percent of BHPS young people are union members as compared to 47 percent of their fathers (in the pooled sample). In 1983 comparable numbers were 32 percent and 66 percent. The Table makes it clear that falling union membership density is common to young people and to their fathers, but also that in the 1990s fathers were around three times more likely to be union members compared to roughly twice as likely in the early 1980s. Interestingly, comparisons in terms of being in a unionized workplace also reveal similar percentage point falls, from 54 to 34 percent for the young people and from 79 to 57 percent for their fathers.

The other interesting feature of these summary statistics is that the levels of having a union at work are much higher than membership for young people in both time periods (at 34 percent compared to 16 percent in the BHPS and 54 compared to 32 percent in the GHS). This latter feature of the data shows a big generation gap in the union membership joining probability for people in unionized workplaces. In fact (this is not shown in the Table) the membership rate of young people who have a union available is considerably lower at 46 percent in the BHPS as compared to 76 percent for fathers (in GHS the equivalent rates are 60 and 83 percent respectively).

This evidence of a higher incidence of non-membership amongst young people in unionized workplaces gives some credence to the hypothesis advanced earlier that there may be a lower propensity for unionization amongst young people.[9] Additional data from the Labour Force Survey can be used to explore this more fully and consider trends in non-membership in the presence of unions at work as birth cohorts grow older. Figure 1 shows this non-membership rate for a set of broad age cohorts. It is clear those non-membership

[9] One might be tempted to refer to this non-membership as free-riding. However, whilst non-membership where a union is available at work and free-riding are likely to be closely related, it is not necessarily the case that a non-member would enjoy the benefits of unionization in this context as one may have unions present in workplaces and still not have collective bargaining mechanisms in place. Unfortunately we do not have coverage data available to look at this in more depth.

declines from around 65 to 40 percent amongst the youngest cohort (aged 16-20) as this group ages by five years. However, no additional age-related trend is detected for any other cohorts.

In addition, the cohort who are similar in age to the young people we study have a higher overall propensity to not become a union member even if a union is available than older groups (even if one takes into account the moderating effects that come with ageing). Figure 2 considers the youngest cohort in more detail, breaking it down into one year age groups. Again a marked cohort effect is found with those who have already reached age 20 by 1993 showing no further changes in their unionization rate whilst younger groups have higher levels of non-membership which decline as they age.

Figures 1 and 2 only show union membership for those in a workplace where a union is present. Therefore, to get a better picture of the overall trends among young people, Figure 3 shows the overall membership rates and the proportion in a unionized workplace for the 16-20 age cohort. This illustrates that both of these figures increase steeply as this group age, with union membership growing faster than being in a union workplace, as we would expect. These descriptive figures indicate that by focusing on younger workers we may well be considering a group whose union behaviour is at least partially in a state of transition. It is therefore important to interpret the findings on intergenerational transmissions in the light of this knowledge. For example, if we believe that union membership moves closer to union availability as individuals age this may mean we wish to place more emphasis upon predicting the determinants of union availability, as this will provide a better approximation of long-run union-joining behaviour. Most importantly we may want to exercise some caution in generalising our results if we see clear differences in cross-generation correlations derived from the two different union variables we model.

5. Cross-Generation Correlations of Union Status

5.1 Basic cross-generation correlations

The starting point of our empirical analysis considers the extent to which young people with unionized parents are more likely to themselves be unionized. Since union status is a discrete yes-no variable we consider odds ratios to measure cross-generation correlations. These have

been widely used in work estimating the extent of social mobility across generations from categorical social class measures.[10]

Table 2 reports statistics on the union status of young people in generation t and the union status of their fathers in the preceding generation (generation t-1). The Table is organised so that it reports a number of conditional probabilities for the various union measures we look at in columns (2) to (5) and then combines these probabilities to report relative risk ratios in column (6). These relative risk, or odds, ratios measure the relative chances that a child of a unionized father is unionized as compared to the relative chances of the child of a non-union father being unionized. One can think of these odds ratios in the context of the outcome of a series of union joining decisions of young people that result in them either achieving or avoiding the same union status as their father. An odds ratio of one corresponds to all young people having an equal chance of being unionized irrespective of their father's union status, or in other words, there being no correlation between parental and young person unionization rates.

The Table reveals some sizable union gaps between the unionization rates of young people with unionized fathers as compared to those with non-union fathers. For individual union membership around 21 percent of young people whose father reports being a union member are themselves union members. This compares to 12 percent of young people with fathers who are not union members. So, put the other way around, 79 percent of young people with union fathers are non-union, and 88 percent of young people with non-union fathers are non-union. Combining these four conditional probabilities gives an overall relative risk ratio of 2.04 showing young people with unionized fathers to be roughly twice as likely to be union members as those with non-union fathers.

Much the same occurs if one considers the other union measure, namely whether one works in a workplace with a recognised trade union. We have already noted the higher levels of the union at work variable for young people, but the cross-generation gaps are of fairly similar magnitude to those for union membership, with the relative risk ratio in this case being 2.34.

The lower two panels of the Table carry out a similar exercise but now look at whether the father reports being active in a trade union. The results reported here are in line with the notion that having a father with more union experience or commitment to the union makes young people more likely to be unionized. The relative risk ratios are now sizable.

[10] For example, an influential analysis of trends in social class mobility in Britain is Goldthorpe, Llewellyn and

For membership the ratio is 3.38 and for union at work it is 3.57. So a young person with an active union father is over three times more likely to be unionized as compared to a young person with a non-union father.

5.2 Statistical models

We can make the step from the raw correlations of Table 2 to multivariate models by recognising that odds ratios are closely linked to estimated coefficients from logit models for discrete dependent variables and these models can be used to control for other factors that may shape union joining decisions. In fact one can easily transform logit coefficient estimates into relative risk ratios like those considered in Table 2. The next part of our empirical analysis therefore reports relative risk ratios from statistical logit models that also control for other factors.

Table 3 reports logit coefficients, associated t-statistics, and relative risk ratios from models that control for age (of young people and their father) and sex (for young people). The reason for these latter controls need to be included to allow for the fact that young people and their fathers are at different points in their life cycle and this may affect their likelihood of joining a union.

The t-statistics show that the cross-generation correlations are strong statistically. One can clearly reject a null hypothesis of no relation between the unionization rates of young people and their parents (this hypothesis corresponds to a zero logit coefficient, or a relative risk ratio of unity). This confirms young people to be significantly more likely to be unionized if their fathers are also unionized. The relative risk ratios reported in the Table are similar to those from the raw data (in Table 2) showing that age and sex controls do not make much difference to the overall pattern of cross-generation correlations.[11] All in all there appears to be significant evidence of persistence in union joining behaviour across generations.[12]

Payne (1980). They report mobility statistics for seven social class groups (in integer value 1 through 7).

[11] The same is true if, rather than considering all young people irrespective of gender, one focuses on sons or daughters alone. For example, the relative risk ratio in a specification comparable to column (1) of Table 3 was estimated at 2.29 if one focussed on sons only.

[12] In a previous version of this paper we estimated approximate 'pseudo-elasticities' of cross-generation union status. These were calculated as the marginal effect from a probit model multiplied by the ratio of means of the parental and young people union variables, that is $(\partial \Pr[U_t = 1] / \partial \Pr[U_{t-1} = 1])(\bar{U}_{i,t-1} / \bar{U}_{it})$ where a bar denotes a mean. These are clearly pseudo-elasticities owing to the discrete nature of U but one can think of them as showing the additional probability of unionization for the young person if their father is unionized. Our

The longitudinal nature of the data means these specifications are estimated on samples where we observe some individuals more than once. The reported t-statistics are corrected for this, but it does mean that, like the literature on intergenerational earnings correlations (as surveyed in Solon, 1999) we can time average data on the same individuals over time so as to get more long term measures of union status (that ought to be less subject to transitory fluctuations or misclassification error). When we implement the usual methods that time average data on the same individuals so as to form a more permanent measure that reduces possible attenuation bias we get similar results, suggesting that problems of union misclassification do not seem to be a problem for any of the Table 3 specifications.[13]

The results in Tables 2 and 3 therefore demonstrate a significant cross-generation persistence of union status, and one that is seen to be stronger for young people whose fathers report themselves to be more active in their union. This supports the theoretical notion that young people whose fathers are union members or who work in a union workplace are themselves more likely to join a union or work in a union workplace, and that parental socialization which imparts knowledge of unions to young people matters. Having established these findings we next move on to probe them in more detail, first looking at changes over time in union correlations, and then seeing whether one can explain the observed correlations by the fact that unionized individuals are more likely to be have more similar personal and job related characteristics.

5.3 Has the intergenerational correlation changed over time?

One may think that there is a possibility of temporal shifts in the extent of cross-generation correlations of union status, particularly given the scale of union decline, and the age based shifts in union status seen in the British labour market since the late 1970s (Machin, 2000;

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estimates found this to be about 0.3. However, after due consideration we feel that the relative risk ratio is a clearer way to present our findings in this case where the variables of interest are discrete.

[13] There is an issue of comparison between time averaged and the pooled models reported as the latter are estimated by logit due to their 0-1 dependent variable but the time-averaged measures have values within the 0-1 range (e.g. someone who is a union member for 2 out of 4 years has a value .5). So we compared linear probability and least squares models. They were close and showed a slight rise in the time averaged coefficient: for the column (1) model of Table 3 a linear probability model coefficient (and associated t-ratio) was .093 (t = 3.70) as compared to a time averaged coefficient of .111 (t = 3.57). The use of the linear probability model does not seem to matter much for the column (1) Table 3 specification as a logit marginal effect was seen to be extremely close to the linear probability coefficient of .093 at .096.

2002a; 2002b). However, the empirical evidence we report based upon the General Household Survey fails to uncover evidence of any such temporal shifts.

Table 4 shows logit coefficients and relative risk ratios from the 1983 GHS data and reports p-values testing whether one sees significant differences between the cross-generation correlations from the GHS data as compared to the BHPS data defined on the same sample selection criteria. The GHS estimates, like the earlier analysis, show a clear rejection of the null hypothesis of no relation between the unionization rates of young people and their parents. It is clear that in 1983 a young person was more likely to be unionized if their father was also unionized. Furthermore, whilst the GHS risk ratios are numerically smaller than the BHPS equivalents one cannot statistically reject the null hypothesis of equality of the BHPS and GHS results (as the p-values for this test given in the Table show). As such we can certainly say that intergenerational transmissions of unionism do not appear to have weakened over time during the era of rapid union decline. Nevertheless, the observation that fewer fathers are unionized does mean that this has implications for future generation's joining rates.

5.4 Do cross-generation commonalities in the determinants of union status explain the existence of the positive cross-generation correlation?

So far we have reported basic intergenerational correlations. But the discussion in Section 3 highlighted how cross-generational correlations in union status might be a consequence of intergenerational correlations of factors that determine unionization. In this sub-section we address this question by looking at several of these factors for young people and their fathers so as to see how well they are able to explain the intergenerational correlations.

Table 5 reports on five sets of characteristics that the large empirical literature on who joins unions (see Booth, 1995) has shown to be important factors that determine union status. These are occupation, industry, whether one has a public or private sector job, size of firm and political preference.[14] The Table shows what proportion of young people are in each group and then what proportions of those are in the same category as their father.

As one might have expected the Table reveals a number of significant commonalities. This is true of all five groups of factors considered. Several strong patterns emerge. In particular, almost 40 percent of those working in the metals and engineering industries also

have a father working in this same (traditionally heavily unionized) sector. In addition, private sector workers have a very high probability that their fathers were also private sector workers. Furthermore, the data appears to support the American findings on intergenerational transmissions of political beliefs (cited above) with over 70 percent of those who consider themselves Labour Party supporters also having fathers who stated this affiliation. The χ^2 tests included in the Table very decisively reject independence of characteristics across generations for all five sets of variables.

With the existence of these correlations established, we now go on to control for these factors in the BHPS pooled specifications first seen in Table 3. The findings are reported in Table 6. The Table either controls for the five groups of factors separately (in rows (1) through (5)) or altogether at the same time (in row (6)). A strong pattern emerges as the reported logit coefficients always remains positive and statistically significant. For union membership, the relative risk ratio does fall, to under 2 in most of the specifications where the specified determinant of union status (for both young people, their fathers and whether they are in the same group) is entered into the statistical model separately. When all factors are entered (in row (6)) it falls to 1.7, but remains statistically significant. For the union at work correlations, the reduction is somewhat less as the relative risk ratio does not always fall. Finally, columns (3) and (4) show the stronger relative risk ratios between union status and having a father who is active in the union remain when one controls for the possible union joining commonalities. Once again, the union membership relationship is reduced more by the addition of the controls than is the case for union at work.

It therefore seems that one cannot explain the existence of the cross-generation correlation by the common within-family characteristics considered. Even after netting out what are strong determinants of union status, young individuals are significantly more likely to be unionized if their fathers are also unionized. Moreover, the stronger link with having a father who is active in the union remains, and this is suggestive that young people who are more exposed to union presence through their parents are themselves significantly more likely to be unionized.

[14] We aggregate our measures of occupation to four categories rather than the usual nine one-digit occupational

6. Conclusion

In this paper we look at a hitherto unstudied question looking at the extent to which union status is correlated across generations. To do so we consider British micro-data on young people and their parents (specifically fathers due to the complex labour supply aspects of mother's work and resultant union membership). This is an important question to consider, given that union decline has been so sharp in the last twenty years or so in Britain. Far fewer parents are union members than they used to be and so, if there is a cross-generation correlation in union joining patterns, this suggests that fewer younger people will be likely to join trade unions in future. Indeed a notable feature of British union decline has been that unionization rates have become very low amongst the young.

Our empirical modelling uncovers a statistically significant link between the unionization rates of young people and their fathers. Young people are significantly more likely to be union members if their fathers are also union members. We also find the strength of this cross-generation transmission to be larger in families where the father is an active union member. The cross-generation correlation is much the same for union at work comparisons as well. Furthermore, it seems that the strength of this connection is at least as strong in the 1990s as it was in the 1980s, despite the rapid falls in union membership that occurred over this time period.

There are some caveats that we need to note. Data limitations have confined us to considering the effects of father's union status on young people's access to and membership of unions. However the fact that only young people's union membership has been considered is not as much of a limitation as one might think. Arumlampalam and Booth (2000) consider union status of young men in the NCDS cohort (born in 1958) at age 23 and 33. They find that more than 80 percent of those who were not union members at age 23 were not union members at age 33 either. Therefore influences on young people's union status are clearly important for the future of unions in the longer run.

The findings we present are useful when placed in the context of apparently falling demand for unionization amongst young people. Awareness of unions amongst the young may well have diminished over time, as young people's fathers are much less likely to be union members than in past generations. If so, our findings suggest that the rapid decline of union jobs and the heavy falls in union membership rates experienced in the last quarter

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grouping as small cell sizes seem to affect the reliability of some of our later models.

century may not only have consequences for unionization rates of the affected generation, but for future generations as well.

Table 1:
Descriptive Statistics

British Household Panel Survey, 1991, 1995-97			
		Young People	Fathers
Average Age	Wave 1	19	47
	Wave 5	21	50
	Wave 6	21	50
	Wave 7	22	50
	Pooled	21	49
	Averaged	21	50
Proportion Union Members	Wave 1	.18	.56
	Wave 5	.16	.44
	Wave 6	.16	.48
	Wave 7	.16	.41
	Pooled	.16	.47
	Averaged	.16	.46
Proportion in Union Workplace	Wave 1	.36	.68
	Wave 5	.32	.54
	Wave 6	.32	.57
	Wave 7	.34	.51
	Pooled	.34	.57
	Averaged	.34	.57
Sample size	Pooled	1509	1509
	Averaged	416	416
General Household Survey, 1983			
Proportion Union Members	1983	.32	.66
Proportion in Union Workplace	1983	.54	.79
Average age	1983	20	49
Sample size	1983	464	868

Notes: BHPS sample selection is all young people who are in the same household as their fathers during one of the four waves considered. The age restriction is that they must be at least 16 by wave 7 and not be older than 25 when they are observed in the same household as their fathers. The GHS sample is for all child-father pairs living in the same household where the young person is aged between 16 and 25.

Table 2:
Descriptive Statistics for Union Status Across Generations,
British Household Panel Survey
(Generation t = Young People, Generation t-1 = Fathers)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Union Membership (U)						
$Pr(U_t=1)$	$P(U_t=1\|U_{t-1}=1)$	$P(U_t=1\|U_{t-1}=0)$	$P(U_t=0\|U_{t-1}=1)$	$P(U_t=0\|U_{t-1}=0)$	Relative Risk	Sample Size
.16	.21	.12	.79	.88	2.04	1509
Union at Work (UW)						
$P(UW_t=1)$	$P(UW_t=1\|UW_{t-1}=1)$	$P(UW_t=1\|UW_{t-1}=0)$	$P(UW_t=0\|UW_{t-1}=1)$	$P(UW_t=0\|UW_{t-1}=0)$	Relative Risk	Sample Size
.34	.41	.23	.59	.77	2.34	1358
Union Membership (U), Father Active in Union (UA)						
$Pr(U_t=1)$	$P(U_t=1\|UA_{t-1}=1)$	$P(U_t=1\|UA_{t-1}=0, U_{t-1}=0)$	$P(U_t=0\|UA_{t-1}=1)$	$P(U_t=0\|UA_{t-1}=0, U_{t-1}=0)$	Relative Risk	Sample Size
.16	.31	.12	.69	.88	3.38	1124
Union at Work (UW), Father Active in Union (UA)						
$Pr(UW_t=1)$	$P(UW_t=1\|UA_{t-1}=1)$	$P(UW_t=1\|UA_{t-1}=0, U_{t-1}=0)$	$P(UW_t=0\|UA_{t-1}=1)$	$P(UW_t=0\|UA_{t-1}=0, U_{t-1}=0)$	Relative Risk	Sample Size
.34	.52	.23	.48	.78	3.57	1008

Notes: The final two panels have smaller sample sizes because information on union activity is not available for wave 6. The risk ratios reported in the second two panels do not show all possible combinations. The probability that the young person is a union member conditional on their father being active can also be compared with the case where the father is a union member but inactive. The relative risk ratio for this case is 1.52. Likewise the probability of having a union active father on being in a union workplace can also be compared with the case where the father is in a union workplace but inactive. In this case the relative risk ratio is 1.48.

Table 3:
Cross-generation Correlations of Union Status, British Household Panel Survey
(Generation t = Young People, Generation t-1 = Fathers)

	British Household Panel 1991, 1995-1997		**British Household Panel 1991, 1995, 1997**	
	(1)	(2)	(3)	(4)
	Union Membership U_t, U_{t-1}	Union At Work UW_t, UW_{t-1}	Union Membership, Father Active in Union U_t, UA_{t-1}	Union At Work, Father Active in Union UW_t, UA_{t-1}
Logit Coefficient	.749 (t=3.69)	.897 (t=5.53)	1.19 (t = 3.60)	1.23 (t = 4.36)
Relative Risk Ratio	2.11	2.45	3.28	3.42
Age and Sex Controls	Yes	Yes	Yes	Yes
P-value Testing Hypothesis of Constancy Across Waves	.071	.553	.465	.292
Sample Size	1509	1358	1124	1008

Notes: In pooled models t-values adjusted for multiple observations on same people. In columns (3) and (4) the Relative Risk Ratio for union fathers who are not active are 1.87 (t = 2.88) and 2.29 (t= 4.72) respectively.

Table 4:
Cross-Generation Correlations of Union Status,
1983 General Household Survey
(Generation t = Young People, Generation t-1 = Fathers)

	General Household Survey, 1983	
	(1)	(2)
	Union Membership U_t, U_{t-1}	Union At Work UW_t, UW_{t-1}
Logit Coefficient	.421 (t = 2.49)	.675 (t = 3.84)
Relative Risk Ratio	1.54	1.96
Age and Sex Controls	Yes	Yes
Gap in RRR relative to Equivalent BHPS Specification	-.57	-.45
P-value Testing Hypothesis of Constancy Across GHS and BHPS	.137	.318
Sample Size	868	853

Notes: As for Table 3. Notice the gaps relative to the BHPS numbers are not the same as comparing Table 4 coefficients with Table 3 coefficients. There are two reasons for this. As the GHS has no panel element only young people who are sharing a household with their fathers are included in the sample, so to ensure comparability we restrict the BHPS sample to this group as well.

Table 5:
Persistence in Factors Determining Union Status Across Generations

	British Household Panel Survey, 1991, 1995-97	
	Proportion of Young People in Category	Proportion of These in Same Group as Father
Occupation		
Management / Professional /Ass. Prof	.14	.53
Clerical / Secretarial / Sales	.40	.12
Craft / Operative	.21	.48
Personal and Protective / Other	.25	.13
	Young Person-Father χ^2 test: p-value<.01	
Industry		
Agriculture	.01	.13
Energy and Water	.01	.09
Mineral Extraction	.03	.15
Metals and Engineering	.08	.37
Other Manufacturing	.08	.26
Construction	.03	.16
Distribution, Hotels and Catering	.37	.11
Transport and Communications	.04	.36
Banking and Business Services	.14	.14
Other Services	.19	.30
	Young Person-Father χ^2 test: p-value<.01	
Sector		
Private Sector	.87	.80
	Young Person-Father χ^2 test: p-value<.01	
Firm Size		
<25	.43	.28
5-100	.24	.29
100-500	.20	.37
500+	.13	.29
	Young Person-Father χ^2 test: p-value<.01	
Political Preference		
Labour Party Supporter	.51	.71
	Young Person-Father χ^2 test: p-value<.01	

Table 6:
Cross-Generation Correlations in Union Status,
Controlling for Cross-Generation Persistence in Characteristics
(Generation t = Young People, Generation t-1 = Fathers)

			(1)	(2)	(1)	(2)
			Union Membership U_t, U_{t-1}	Union At Work UW_t, UW_{t-1}	Union Membership, Father Active in Union U_t, UA_{t-1}	Union At Work Father Active in Union U_t, UA_{t-1}
(1)	With control for same industry	Logit Coefficient	.670 (t = 3.07)	.988 (t = 5.61)	1.10 (t = 3.08)	1.26 (t = 3.93)
		Relative Risk Ratio	1.95	2.69	3.02	3.55
(2)	With control for same occupation	Logit Coefficient	.652 (t = 3.15)	.887 (t = 5.43)	1.01 (t = 3.02)	1.22 (t = 4.66)
		Relative Risk Ratio	1.92	2.43	2.76	3.40
(3)	With control for same firm size	Logit Coefficient	.783 (t = 3.63)	.952 (t = 5.14)	1.26 (t = 3.77)	1.30 (t = 4.49)
		Relative Risk Ratio	2.19	2.59	3.51	3.68
(4)	With control for same politics	Logit Coefficient	.668 (t = 3.20)	.902 (t = 5.53)	1.03 (t = 3.14)	1.24 (t = 4.34)
		Relative Risk Ratio	1.95	2.46	2.80	3.48
(5)	With control for same sector	Logit Coefficient	.625 (t = 3.07)	.846 (t = 4.79)	1.11 (t = 3.41)	1.17 (t = 4.06)
		Relative Risk Ratio	1.87	2.33	3.02	3.23
(6)	With controls for all characteristics	Logit Coefficient	.524 (t = 2.29)	.890 (t = 4.19)	.913 (t = 2.14)	1.31 (t = 3.89)
		Relative Risk Ratio	1.69	2.46	2.49	3.71
	Sample Size		1506	1358	1124	1008

Notes: As for Table 3. All specifications include age and sex controls of both young people and their fathers. In rows (1) through (5) the specified determinant of union status (for young people, fathers and whether they are in the same group) are entered into the statistical model separately. In row (6) all specified determinants (again for young people, their fathers and whether they are in the same group) are entered into the statistical model. As in Table 3 for specifications (3) and (4) there is a control for unionized, but non-active fathers. The RRRs for this variable for specification (3) are (in order) 1.99, 1.72, 1.89, 1.75, 1.70, 1.75. For specification (4) the equivalent numbers are 2.47, 2.29, 2.48, 2.32, 2.38, 2.63.

Figure 1: Proportion Not Union Members, Union at Work:
By Age Cohort, Labour Force Survey

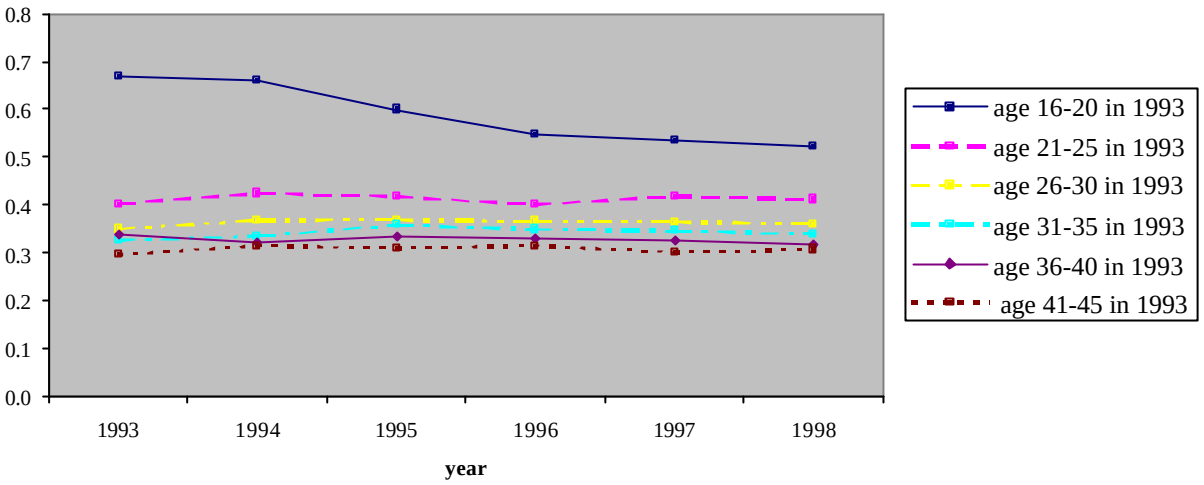


Figure 2: Proportion Not Union Members, Union at Work:
Young Cohort, Labour Force Survey

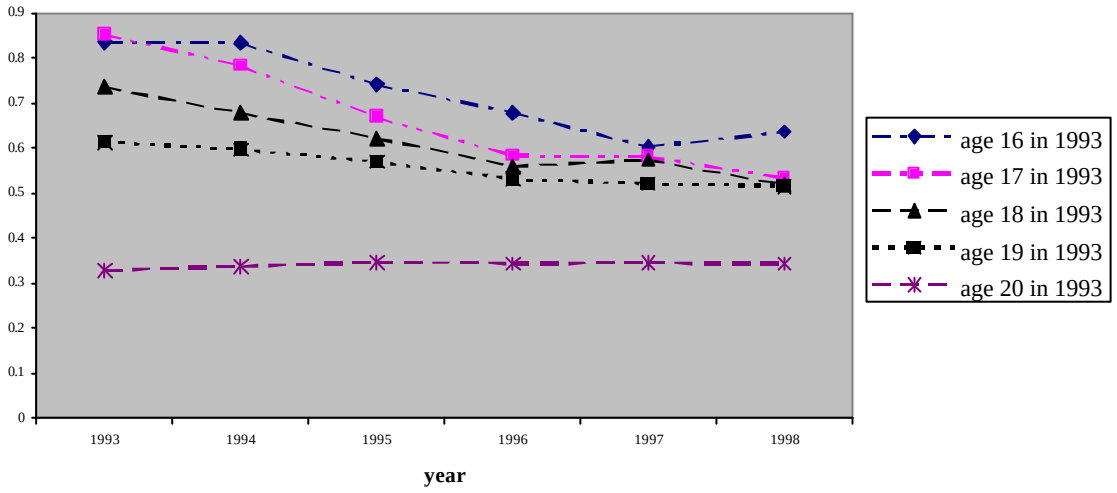
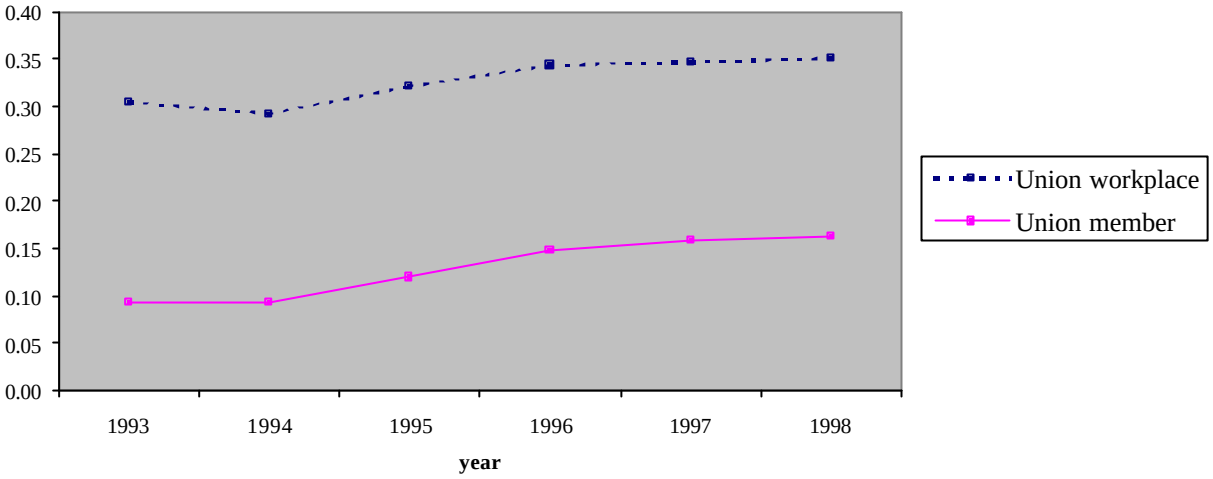


Figure 3: Union Membership and Union at Work: Cohort Aged 16-20 in 1993, Labour Force Survey



Appendix

Discussing the Representativeness of the Matched Sample of Young People and Fathers

In this section we attempt to allay fears about the representativeness of the specific sample of young people that we draw from the BHPS. We present comparable summary statistics from the overall 1995 BHPS cross-section and from the Labour Force Survey (LFS) 1995 autumn quarter (Q3). We select data from 1995 as this is the middle year of our BHPS data and the autumn quarter from LFS as this is the only LFS quarter where union status is reported. The samples of young people that we extract from the full BHPS cross-section and from the LFS are all those working aged between 18 and 24 years old. Unlike in our matched BHPS sample of young people and fathers, there is no restriction that these individuals must be living, or have recently lived, with their parents.

The results of this comparison are presented in Table A1. It seems that the matched BHPS sample of young people and their fathers turns out to be very representative of young workers as a whole, particularly in terms of their union status, our main variable of interest. In the matched BHPS, the 1995 BHPS cross-section and the LFS samples, 16 percent of young people are union members. The proportion with a union in the workplace is almost as comparable standing at 34 percent in the matched BHPS, 31 percent in the BHPS cross-section and 35 percent in the LFS. It also appears that our sample is largely representative on sex, and the determinants of unionization that we consider in the empirical work presented in the paper (industry, occupation, political preference, firm size and private/public sector status).[15]

[15] We may also be worried that the sample could under-represent those with higher level educational qualifications on the grounds that these individuals may be more likely to have left home. This appears to be only a minor issue as 8 percent of our sample have a first degree or above, compared with 11 percent of all 18-24 year olds in the 1995 BHPS and 10 percent of all 18-24 year olds in the 1995 Q3 Labour Force Survey. These numbers are, of course, low since many 18-24 year olds will not have yet completed their education.

Table A1:

Comparing our BHPS Sample with the 1995 LFS

	BHPS Matched Sample	BHPS 18-24 Sample 1995	LFS 18-24 1995 Q3
Union Member	.16	.16	.16
Union at Work	.34	.31	.35
Female	.49	.47	.49
Industry			
Agriculture, Forest and Fisheries	.01	.01	.02
Energy and Water	.02	.01	.01
Minerals	.03	.02	.00
Manufacturing	.17	.19	.20
Construction	.03	.05	.07
Distribution	.37	.35	.23
Transport and Communication	.04	.04	.09
Banking and Finance	.14	.13	.14
Other Services	.19	.21	.24
Occupation			
Management and Administrative	.04	.05	.07
Professional	.04	.04	.04
Associate Professional	.06	.09	.08
Clerical	.23	.22	.21
Craft	.13	.13	.14
Personal and Protective	.14	.15	.15
Sales	.17	.14	.13
Plant and Machine Operatives	.08	.09	.09
Other	.11	.09	.09
Political preference			
Labour	.34	.38	-
Conservative	.19	.18	-
Liberal	.14	.13	-
Other	.33	.31	-
Firm Size			
<25	.43	.40	.40
25-100	.24	.23	.60
100-500	.20	.21	
500+	.13	.15	
Private Sector	.87	.86	.83

Notes: Political preference variables are not available in the Labour Force Survey.

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